

Abstract of the Disclosure

A steel for use in high strength pinion shaft which is not refined and used by applying high frequency hardening, with less occurrence of peeling during hobbing, having high surface hardness, impact value and torsional strength after high frequency hardening, and with less heat treatment strains during high frequency hardening, containing, on the mass% basis; C: 0.45 - 0.55%, Si: 0.10 - 0.50%, Mn: 0.50 - 1.20%, P: 0.025% or less, S: 0.025% or less, Mo: 0.15 - 0.25%, B: 0.0005 - 0.005%, Ti: 0.005 - 0.10%, and N: 0.015% or less, satisfying: $0.80 \leq Ceq \leq 0.95$ and $f \text{ value} \leq 1.0$, and the balance of Fe and inevitable impurities, as well as a manufacturing method thereof.